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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,772	09/19/2003	C. David Young	02CRI46/KE	9426

7590 05/16/2007  
ROCKWELL COLLINS, INC.  
Attention: Kyle Eppeler  
M/S 124-323  
400 Collins Rd. NE  
Cedar Rapids, IA 52498

EXAMINER
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KARIKARI, KWASI

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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05/16/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/666,772	YOUNG, C. DAVID	
	Examiner	Art Unit	
	Kwasi Karikari	2617	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 March 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-22 is/are pending in the application.
- 4a) Of the above claim(s) 4 canceled is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

### **Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-3 and 5-22 are rejected under U.S.C. 103(a) as being unpatentable over Cain et al. (U.S. 20030198206 A1), (hereafter Cain) in view of Billhartz (U.S. 20040203820 A1), (hereinafter Billhartz) and further in view of Nataraja (U.S. 20020049039), (hereinafter, Natarajan).**

Regarding **claims 1, 8 and 16**, Cain discloses a communications system/

method/ transceiver (see Fig. 1), comprising:

a plurality of transceiver nodes (mobile nodes 12a-12h, see Fig. 1) configured to utilize a time division multiple access structure (TDMA access scheme, see Par. 0004) to communicate between the transceiver nodes (12a-12h), each transceiver node generating congestion metric information based on the utilization of a link to each of its neighbors (= interference detection unit 18d detects interference in time slot for communication with neighboring mobile nodes, see Pars. [0029-30 and 0038-42]);

the time division multiple access structure including a plurality of time slots during which the transceiver nodes are configured to communicate data cells (= traffic coordination unit 18e coordinates communication with each neighboring mobile node by allocating time slots; time slot for transmission and receiving data; and RF signal, see Pars. [0030-31 and 0054]), the data cells being transmitted from a transmission queue (= queue buildup/queue state, see Par. 0079 and 0139-44), the data cells including the congestion (interference/packet error rate) metric information (see Pars. [0028, 0042 and 0077]); but fails to teach routing information and "wherein the congestion metric information is base on comparing cell counts against a total capacity of each link."

However, Billhartz teaches routing information (see Par. [0074]).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Billhartz with the system of Cain for the benefit of achieving an ad hoc system that shares connectivity data (see Billhartz, Par. [0011]).

The combination of Cain fails to teach "congestion metric information is base on comparing cell counts against a total capacity of each link".

Natarajan teaches the monitoring of traffic demand conditions and determining a least utilized base station for servicing a channel request by a subscriber unit, see (Par. 0008). Furthermore, Natarajan mentions processes of channels acquisition and the determination of channel utilization (see Pars. 0023-27).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Natarajan with the systems of Cain and Billhartz for the benefit of achieving a system that makes a periodic computation and exchange of traffic demand and state information to neighboring base stations, whereby improving channel management, allocation and capacity (see Natarajan, Par. 0008).

Regarding **claims 2 and 14**, as recited in claims 1 and 8, Cain further discloses the communication system, wherein the congestion metric information is generated by a channel access subsystem (see Pars. [0033-37 and 0040-42]).

Regarding **claim 3**, as recited in claim 1, Cain further discloses the communication system, wherein the cell counts are transmitted in unicast and broadcast allocated slots (see Pars. [0047, 0054, and 0058-59]).

Regarding **claim 5**, as recited in claim 1, Cain further discloses the communication system, wherein the congestion metric information is further based on the fullness of priority queues (see Pars. [071-73]).

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Regarding **claim 6**, as recited in claim 1, Cain fails to disclose the communication system, wherein the congestion metric information is further based on the availability of digital signal processor (dsp) buffers.

However, Billhartz teaches, where congestion metric information is based on the availability of digital signal processor (dsp) buffers (see Pars. [0071-73]).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Billhartz with the system of Cain for the benefit of achieving an ad hoc system that shares connectivity data (see Billhartz, Par. [0011]).

Regarding **claim 7**, as recited in claim 1, Cain fails to disclose the communication system wherein the congestion metric information is based on the availability of unallocated slots.

However, Billhartz teaches, system wherein the congestion metric information is based on the availability of unallocated slots (see Par. [0070]).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Billhartz with the system of Cain for the benefit of achieving an ad hoc system that shares connectivity data (see Billhartz, Par. [0011]).

Regarding **claims 9 and 17**, as recited in claims 8 and 16, Cain further discloses the communication system/tranceiver, wherein the congestion metric information is provided as one of a predetermined number of states (see Pars. 0083 and 0089-90).

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Regarding **claims 10 and 18**, as recited in claims 9 and 17, Cain further discloses the communication system/tranceiver, wherein the predetermined number of states is four (4) (see Pars. 0083 and 0089-90).

Regarding **claim 11 and 19**, as recited in claims 8 and 16, Cain fails to disclose the communication system/transceiver, wherein a route management subsystem disseminates the congestion metric information.

However, Billhartz teaches the communication system/transceiver, wherein a route management subsystem disseminates the congestion metric information (see Par. [0074]).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Billhartz with the system of Cain for the benefit of achieving an ad hoc system that shares connectivity data (see Billhartz, Par. [0011]).

Regarding **claim 12 and 20**, as recited in claims 8 and 16, Cain fails to disclose the communication system/transceiver, wherein a route management subsystem, wherein a flow control subsystem of a second node may utilize the congestion metric information when received by the second node.

However, Billhartz teaches wherein a route management subsystem, wherein a flow control subsystem of a second node may utilize the congestion metric information when received by the second node (see Par. [0078]).

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It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Billhartz with the system of Cain for the benefit of achieving an ad hoc system that shares connectivity data (see Billhartz, Par. [0011]).

Regarding **claim 13 and 21**, as recited in claims 8 and 16, Cain fails to disclose the communication system/transceiver, wherein a route management subsystem, wherein the congestion metric information and routing information is transmitted by a route management subsystem.

However, Billhartz teaches wherein a route management subsystem, wherein the congestion metric information and routing information is transmitted by a route management subsystem (see Pars. [0073-74]).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Billhartz with the system of Cain for the benefit of achieving an ad hoc system that shares connectivity data (see Billhartz, Par. [0011]).

Regarding **claims 15 and 22**, as recited in claims 8 and 16, Cain further discloses the communication system/transceiver, wherein the transmission system is a time division multiple access (TDMA) system (see Pars. [0004 and 0010]).

### ***Conclusion***

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although



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the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

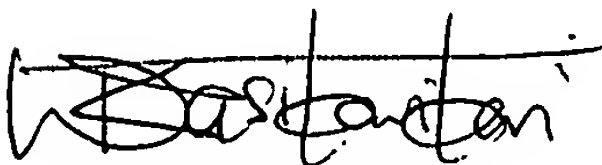
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwasi Karikari whose telephone number is 571-272-8566. The examiner can normally be reached on M-F (8 am - 4pm).

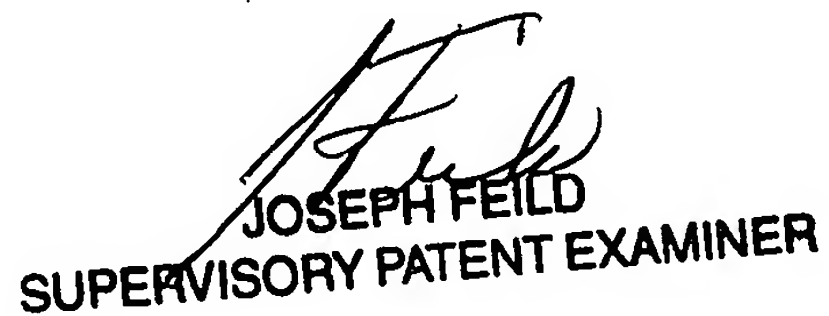
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8566.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kwasi Karikari  
Patent Examiner.  
05/07/2007



JOSEPH FEILD  
SUPERVISORY PATENT EXAMINER